



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/830,902 | 10/19/2001 | Jean Weissenbach | R-341894 | 7144 |

7590 02/11/2003

Norman H Stepno
Burns Doane Swecker & Mathis
PO Box 1404
Alexandria, VA 22313-1404

EXAMINER

QIAN, CELINE X

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 1636 | |

DATE MAILED: 02/11/2003

14

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|---------------------------|--------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/830,902 | WEISSENBACH ET AL. |
| | Examiner Celine X Qian | Art Unit 1636 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) _____ is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) 1-40 are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) Interview Summary (PTO-413) Paper No(s) _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION

Claims 1-40 are pending in the application.

Election/Restrictions

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

- I. Claims 1-4, 13, 19-21, 26 and 27, drawn to a nucleic acid of SPG4 gene, a vector comprising said nucleic acid, a host cell comprising said vector and a method of making a recombinant polypeptide using said vector.
- II. Claims 5, 6, 24 and 36, drawn to a primer or a probe of SPG4 gene.
- III. Claim 7, drawn to a splice donor site.
- IV. Claims 8, 9 and 25, drawn to a method of screening DNA library using nucleic acid of SPG4 gene.
- V. Claim 8, drawn to a method of cloning isolate DNA encoding spastin by using nucleic acid of SPG4 gene.
- VI. Claims 10 and 11, drawn to a method for identifying a mutation of SPG4 gene.
- VII. Claim 12, drawn to a method of identifying regulatory sequences of SPG4 gene.
- VIII. Claims 14-18 and 28, drawn to a polypeptide encoded by SPG4 gene.
- IX. Claims 22 and 23, drawn to a mammal comprising a cell transformed with a vector expressing SPG4 gene.

- X. Claims 29 and 39, drawn to antibodies to the polypeptides encoded by SPG4 gene.
- XI. Claim 30, drawn to a method for detecting a polypeptide or purifying a polypeptide using the antibody.
- XII. Claims 31 and 32, drawn to a method for genotype diagnosis of AD-HSP associated with a mutation of SPG4 gene.
- XIII. Claim 33, drawn to a method for genotype diagnosis of AD-HSP associated with abnormal expression of a polypeptide encoded by the SPG4 gene.
- XIV. Claims 34 and 37, drawn to a method for selecting a compound that modulates the expression/activity of a polypeptide encoded by SPG4 gene by using the nucleic acid encoding SPG4 gene.
- XV. Claim 35, drawn to a method for studying the expression or activity of the SPG4 gene by using the nucleic acid of SPG4 gene.
- XVI. Claim 38, drawn to a method for studying the expression or activity of the SPG4 gene by using the polypeptide encoded by SPG4 gene.
- XVII. Claim 40, drawn to a method for studying the expression or activity of the SPG4 gene by using an antibody to the polypeptide encoded by SPG4 gene.

PCT Rule 13.2 requires that unity of invention exists only when the shared same or corresponding technical feature is a contribution over the prior art. The inventions listed as Groups I-XVII do not relate to a single general inventive concept because they lack the same or corresponding special technical feature. The “special technical feature” or Group I is a nucleic acid of SPG4 gene, a fragment or a homolog, which is shown by Kikuno et al. (XP 002140994),

which disclose such a nucleic acid (see AB029006). Therefore, the invention lack novelty or inventive step, and does not make a contribution over the prior art.

The inventions of Groups II, III, VIII, IX, X are drawn to materially distinct compositions that do not relate to a single general inventive concept under PCT Rule 13.2. Therefore, there is no unity of invention between these groups.

The inventions of Groups IV-VII, XI-XVII are drawn to methods that require different starting materials and modes of operation. These inventions do not share a common feature. Therefore, there is no unity of invention between these groups.

The inventions of Groups II, III, VIII-X and Groups IV-VII, XI-XVII are drawn to compositions and methods that are not directly related. The compositions can be used in different methods than those claimed in Groups IV-VII, XI-XVII, and the methods can use different compositions than those claimed in Groups II, III, VIII-X. Therefore, there is no unity of invention between these groups.

If any one of Groups I-XVII is elected, applicants must further elect a single invention which is the product or method drawn to one specific sequence. Section (f)(i)(B)(1) of Annex B of the Administrative Instructions requires that all alternatives of a Markush Groups have a common structure which is a significant structural element. Although the nucleic acid sequences of claims 1-40 share certain homology, the sequences are not regarded as being of similar nature because the shared common structure is not a significant structural element. Sharing sequence homology of 15 base pair out of 110 kilo base pair nucleic acid is not considered as a significant structural element. Therefore, only one sequence can be examined in a single application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Celine X Qian whose telephone number is 703-306-0283. The examiner can normally be reached on 9:00-5:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Remy Yucel Ph.D. can be reached on 703-305-1998. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3014 for regular communications and 703-305-3014 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

Celine Qian, Ph.D.
February 7, 2003

Anne-Marie Falk
ANNE-MARIE FALK, PH.D
PRIMARY EXAMINER